OWNER'S MANUAL

Cat. No. 31-3015A

STA-2600
SOLID STATE
AM/FM STEREO RECEIVER

PLEASE READ BEFORE USING THIS EQUIPMENT

REALISTIC®

In choosing this fine Realistic product, you have demonstrated a rather acute awareness of the good old American custom called "getting the most for your money." With Realistic, this is not an idle boast.

The "line" was born in Boston—long famous for Yankee ingenuity and thrift. Its original intent was to bridge a gap between $100 equipment and $25 equipment where, at the time, there was a real void in hi-fi merchandise.

Early products were a $39.95 FM tuner, a $29.95 preamp/amplifier, a $19.95 speaker. Soon we found ourselves a unique niche as manufacturing retailers.

Capacity and ability grew simultaneously. Soon Realistic hi-fi products—loudspeakers, receivers, tape decks, even table radios—began receiving critical acclaim for faultless performance as well as value. Dealers and franchises from all over the world began requesting a Realistic franchise.

Today you can shop The Worldwide Supermarket of Sound® with the confidence that you're getting the widest selection of quality hi-fi equipment available anywhere—whether you're looking at budget-priced extension speakers or true audiophile amplifiers, tuners and receivers.

Powerful and expandable—your new STA-2600 Solid-State AM/FM Stereo Receiver embraces the sound-system components of the recent breakthrough technology.

Your new STA-2600 incorporates the very latest in microprocessor and MOS FET technology to deliver versatility and performance unmatched in its price range!
The STA-2600 delivers enough power to drive almost any speaker system. The 100 watts per channel over the entire audio bandwidth will drive both "main" and "remote" speakers. And it has the performance and convenience features that distinguish a truly great receiver.

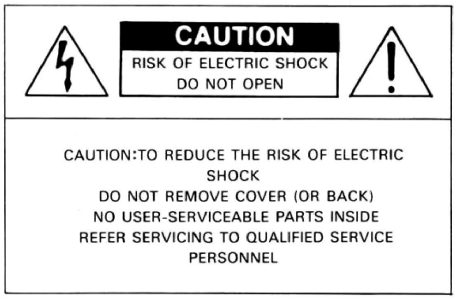
The built-in CMOS LSI Frequency Synthesizer eliminates the usual dial scale and replaces it with a digital readout. Your STA-2600 tunes up or down the AM and FM bands automatically. The FM front-end uses a dual-gate MOS FET for immunity from overloading due to strong local signals.

Note to the CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

For your own protection, we urge you to record the serial number of this unit in the space provided. You'll find the serial number on the back panel of the unit.

Serial Number	


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

The lightning flash with arrowhead within the triangle is intended to alert the user to dangerous voltage inside this unit that can cause shock. Do not open enclosure.

The exclamation point within the triangle is intended to alert the user to important operating and maintenance instructions in this owner's manual.

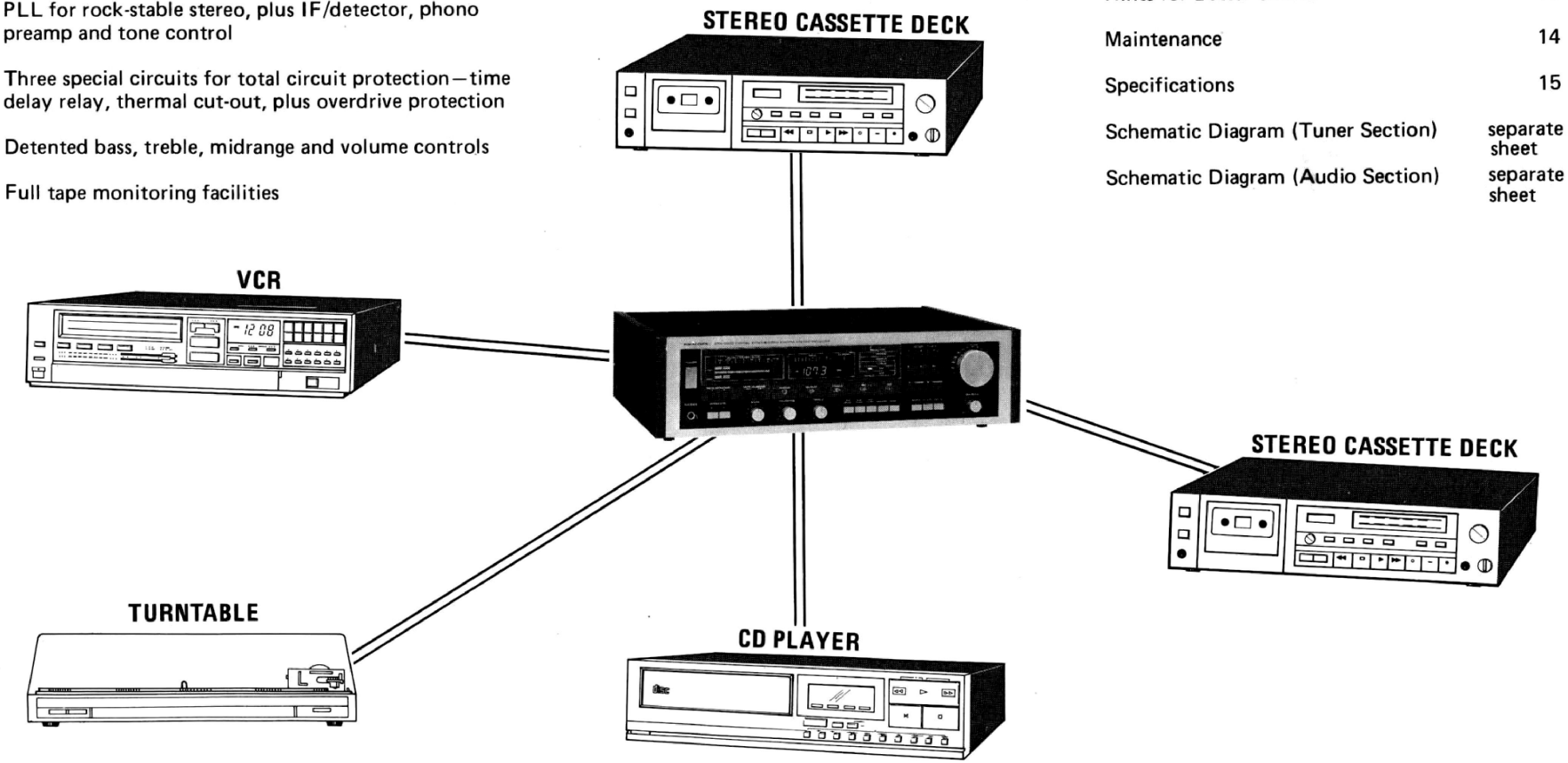
FEATURES

- Up to 12 stations (6 for FM and 6 for AM) programmable into the microprocessor-controlled memory, ready for one-touch recall
- The memory contents are automatically protected as long as the power is supplied to the receiver: even when the power is cut off, the memory will be kept for about one week.
- The latest integrated circuit technology to control noise and distortion
- Use of integrated circuits for all critical circuit stages—PLL for rock-stable stereo, plus IF/detector, phono preamp and tone control
- Three special circuits for total circuit protection—time delay relay, thermal cut-out, plus overdrive protection
- Detented bass, treble, midrange and volume controls
- Full tape monitoring facilities

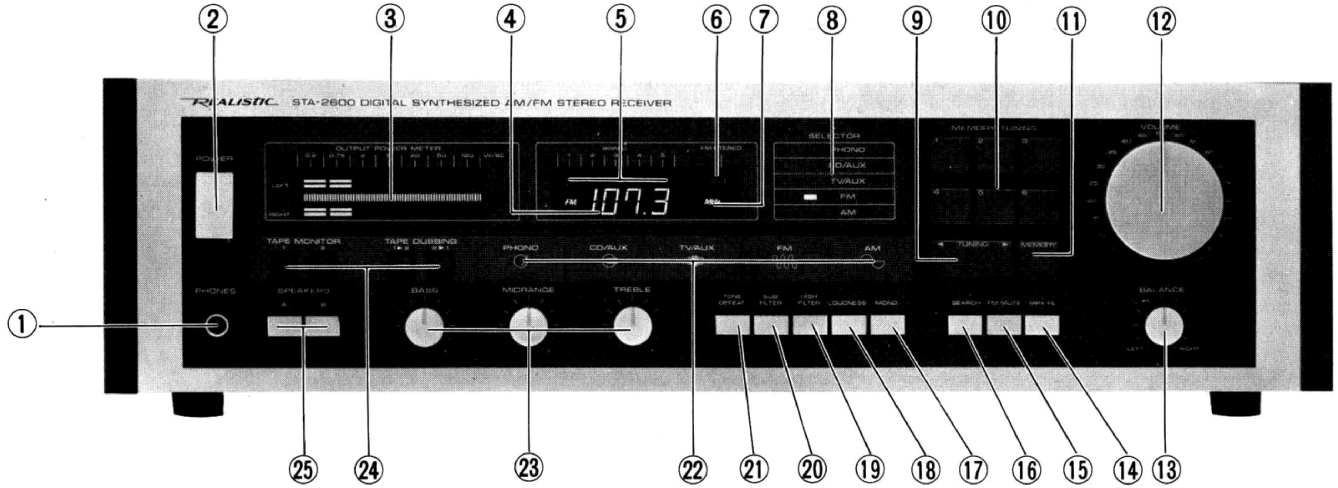
Designed for convenience as well as for breathtaking sound, your receiver accepts five additional sources beyond the inherent AM/FM stereo. Included are two separate sets of tape-deck input/output jacks for dubbing or simultaneous dual recording, phono jacks for a turntable, a VCR auxiliary for TV audio, and a CD auxiliary for a compact disc player!

Contents

Controls and Functions	page 4
Rear Panel Features	6
Connections	8
Typical STA-2600 System	9
Choosing the Rest of Your System	10
Operating the STA-2600	11
Hints for Better Sound	13
Maintenance	14
Specifications	15
Schematic Diagram (Tuner Section)	separate sheet
Schematic Diagram (Audio Section)	separate sheet



CONTROLS AND FUNCTIONS



① PHONES

Connect a pair of headphones here.

② POWER

Turns the Receiver on when pushed in — off when pushed a second time.

③ OUTPUT POWER METER

Indicates the relative power output of each channel. (Wattage readings are accurate only with 8 ohm speakers.)

④ Digital Frequency Display

Shows the frequency of each station you select with TUNING or MEMORY TUNING buttons. If you know the frequency of the station that you want to listen to, tune so the frequency display shows the frequency desired.

The tuner tunes up and down in standard increments (steps) for the band you are listening to AM or FM.

⑤ SIGNAL Strength Indicator

Indicates AM and FM signal strength. The double bars light from left to right (1-5) in order according to the signal strength. When receiving a very strong signal, all five bars will be lit. Tune for the highest signal strength indication.

⑥ FM STEREO Indicator

Lights to indicate that the MONO button is out and you are tuned to a stereo FM signal.

⑦ MEMORY Indicator

Lights to show the Receiver is ready to memorize a station frequency within 5 seconds after you press the MEMORY button.

⑧ Input SELECTOR Indicator

When you select a function, the corresponding green LED lights up to indicate the function you are using — PHONO, CD/AUX, TV/AUX, FM or AM.

⑨ TUNING

Allows you to tune to a station either automatically or manually. For auto tuning, make sure SEARCH is pressed in, then press either up (▶) or down (◀) side of the key to search for a higher or lower frequency. To tune manually, press SEARCH again to the out position and press either (▶) or (◀) side of TUNING key. The frequency shown on the display decreases or increases by one step.

⑩ MEMORY TUNING 1 to 6

Store up to 12 of your favorite stations in memory for immediate recall by pushing one of these buttons. (You can set 6 for FM and 6 for AM.)

⑪MEMORY Button

Enters the displayed frequency into memory. The MEMORY indicator shows the Receiver is ready to memorize a station frequency (within 5 seconds) after you press MEMORY button.

⑫VOLUME

Adjusts the level of sound for both channels — from minimum to maximum. You'll notice that the VOLUME control is "stepped" for convenient reference. (You can always return to a previous setting by referring to the numbered step position.)

⑬BALANCE

Provides best balance of sound between channels. At the center position (you'll feel a slight catch), the sound will be equal from both channels.

⑭MPX FILter

Minimizes hiss of high-frequency noise in FM stereo reception.

⑮FM MUTE

Activates the built-in FM muting circuit and eliminates hiss between FM stations.

⑯SEARCH

Selects the auto or manual tuning mode. Press in to set to auto tuning mode.

⑰MONO

Defeats stereo operation (both channels will carry a Left + Right signal). Leave the button out (push a second time to release to out position) to return to normal stereo operation.

⑱LOUDNESS

Introduces a special low and high-frequency emphasis at low listening levels. This is done because the human ear is less sensitive to these frequencies at low listening levels. Press again to remove Loudness compensation from the circuit. Use the position that provides the most pleasing sound reproduction for your taste.

⑲HIGH FILTER

Minimizes hiss, scratches and other high-frequency noise.

⑳SUB FILTER

Allows you to filter out low frequency noise such as turntable rumble.

㉑TONE DEFEAT

Removes tone controls and establishes a flat frequency response regardless of the tone control settings.

㉒Input Selector Buttons

PHONO — activate the pair of PHONO jacks on the rear; use in conjunction with a record changer/turntable with a magnetic cartridge.

CD/AUX — activate the pair of CD/AUX jacks on the rear. This may be used with any high-level source such as Compact Disc player, a tape deck or another tuner.

TV Audio/AUX — activate the pair of TV/AUX jacks on the rear. This may be used with any high-level source such as another tuner, a tape deck, TV sound, phono with ceramic or crystal cartridge, etc.

FM — receives FM radio stations.

AM — receives AM radio stations.

When you select a function, the SELECTOR indicator LED lights.

㉓BASS, MIDRANGE and TREBLE

Adjusts bass, midrange, and treble response of your STA-2600. Rotate clockwise to increase, counter-clockwise to decrease.

㉔TAPE MONITOR and DUBBING

TAPE MONITOR 1 and 2 — Allows you to listen to a tape playback or a recording as it is being made, assuming you are using a three-head tape deck (one with monitoring facilities). Press TAPE MONITOR 1 in to monitor a deck connected to TAPE-1 IN; press TAPE MONITOR 2 to monitor a deck connected to TAPE-2 IN.

Caution: If you want to listen to the Receiver's sound, you must leave TAPE MONITOR 1 and 2 buttons in the out position.

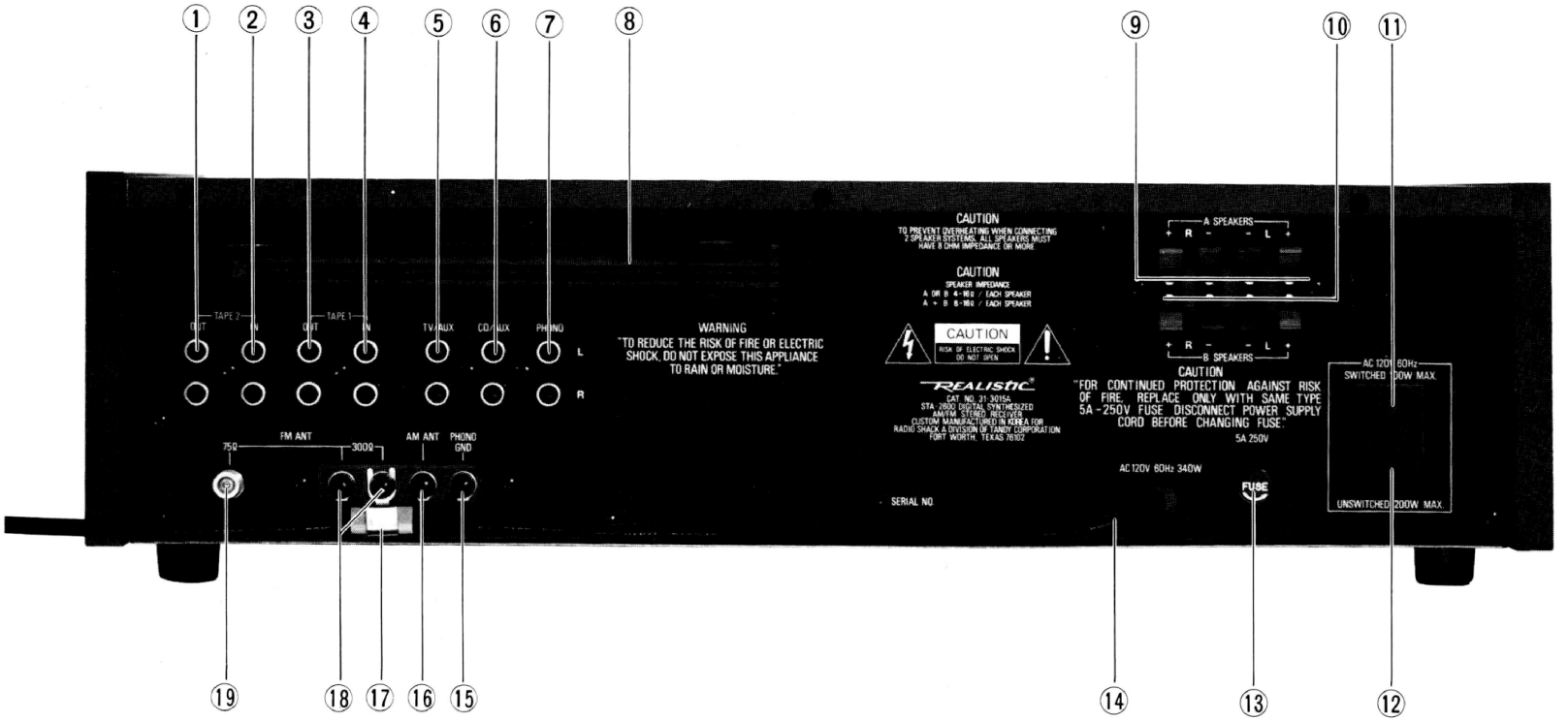
TAPE DUBBING 1 ▶ 2 and 2 ▶ 1 — Controls the tape dubbing (duplicating) functions. With these buttons in the out position, both sets of TAPE OUT jacks will carry the same signal as determined by the input selector buttons.

Press TAPE DUBBING 1 ▶ 2 in to dub directly from TAPE-1 IN to TAPE-2 OUT, and press TAPE DUBBING 2 ▶ 1 in to dub from TAPE-2 IN to TAPE-1 OUT.

㉕SPEAKERS

Activates speakers. Pressing in the A switch activates the main speakers only. Pressing in the B switch activates the remote speakers only. Pressing in both A and B will allow use of both main and remote speakers. If you want to listen through headphones, leave both A and B in their out (fully extended) positions to turn off all speakers.

Rear Panel Features



① **TAPE 2 OUT** – Permits recording with a second tape recorder. Also use for duplicating (or dubbing) tapes being played through the amplifier from another recorder/player connected to TAPE 1 IN.

② **TAPE 2 IN** – Accepts output from a second tape deck or recorder for tape playback. These jacks are active when the front panel TAPE MONITOR 2 button is pressed.

③ **TAPE 1 OUT** – Permits tape recording of any source chosen by the INPUT selector. The output from these jacks is unaffected by the front panel controls. Also use for duplicating (or dubbing) tapes being played through the amplifier from another recorder/player connected to TAPE 2 IN.

④ **TAPE 1 IN** – Accepts output from any tape deck or recorder for tape playback. These jacks are active when the front panel TAPE MONITOR 1 button is pressed.

⑤ **TV Audio/AUX** – Accepts output from any high-level source – tape deck, turntable with ceramic cartridge, TV, VCR, etc. These jacks are active when the TV/AUX button is pressed.

⑥ **CD/AUX** – Accepts output from any high-level source – tape deck, turntable with ceramic cartridge, Compact Disc Player, etc. These jacks are active when the CD/AUX button is pressed.

⑦ **PHONO** – Accepts output from a turntable/record changer equipped with a magnetic cartridge. These jacks are active when the front panel PHONO button is pressed.

⑧ **Built-in adjustable ferrite loopstick AM antenna** – Provides adequate AM reception in most areas. Move around for best reception.

⑨ **A SPEAKERS Push Terminals** – Power main speakers.

⑩ **B SPEAKERS Push Terminals** – Power remote speakers.

⑪ **SWITCHED Convenience Outlet** – Powers any audio accessory up to 100 watts. This receptacle is affected by the front panel POWER switch. (Not available on UK models.)

⑫ **UNSWITCHED Convenience Outlet** – Powers any audio accessory up to 200 watts. The front panel POWER switch does not affect this receptable. (Not available on UK models.)

⑬ **Power FUSE 5A 250V** – Protects the Receiver from voltage surges, short circuits and other abnormal operating conditions. If the POWER indicator LED above the POWER button does not go on when POWER is on, check the fuse. If it is blown, replace it with an identical size and value (5A 250V).

⑭ **AC Line Cord** – Connects to a source of standard AC power.

⑮ **PHONO GND Terminal** – Connects to the green/black lead from the record changer/turntable (to reduce or eliminate hum).

⑯ **AM ANTenna Screw Terminal** – Connects to an external AM/short-wave antenna for long distance AM reception. In most areas the built-in antenna will provide excellent reception.

⑰ **FM Line Cord Antenna** – Connects to the 300Ω FM screw terminal as a temporary set up to provide FM reception in most metropolitan areas. To realize maximum benefit from your Receiver's FM section, we urge you to use an external/outside antenna. Disconnect the line cord antenna when using an external FM antenna.

⑱ **FM ANTenna 300Ω Screw Terminals** – Connects to antennas, using standard 300-ohm lead-in.

⑲ **FM ANTenna 75Ω Coaxial Connector** – Connects to an antenna using 75ohm coaxial connector. Coaxial cable provides extremely high resistance to static and electrical noise. (See Hints for Better Sound on page 13 for connection instructions.)

CONNECTIONS

BEFORE MAKING CONNECTIONS:

1. Do not plug in the Receiver's power cord.
2. Be sure POWER is off.

Note: To reduce hum, use shielded audio cables for all connections except for speakers.

Speakers

The STA-2600 has two sets of speaker outputs— A (main) and B (remote).
For maximum bass responce, be sure to observe proper phasing. Connect the + Receiver speaker output to the speaker terminal labeled + and the — output to the speaker terminal labeled —. Most speaker wire is marked with a ridge along one conductor or has one color-coded conductor to simplify these connections.

Notes:
1. The STA-2600s outputs are designed for 4-16 ohm speakers. However, when more than one set of speakers is being connected, use only 8-16 ohm systems. This will prevent the amplifier from being overloaded.
2. Be sure no stray strands of wire touch a second terminal or chassis — a harmful short could result.
3. Connect no more than two sets of speakers to the Receiver.
4. Use only as much wire as necessary to connect the speakers.

If you are using 4-ohm speakers, connect only one set of speakers, or use only one set of speakers at a time. That is, don't use A + B if one set is 4 ohms. Low impedance speaker systems will tend to trip the automatic circuit protection/amplifier shut-down circuitry when operating at high volume levels (to prevent damage from amplifier overdrive).

Note: To obtain accurate OUTPUT POWER METER readings, you must use one pair of 8 ohm speakers.

Phonograph

Connect the turntable leads to the PHONO inputs. These jacks are active when the PHONO button is pressed. If the turntable has a ground wire (usually black or green), connect it to PHONO GND screw. Plug the turntable AC cord into the UNSWITCHED AC convenience outlet or a wall socket.

Tape Deck (s)

For recording, connect the receiver's TAPE 1 OUT jacks to a recorder's aux or line input. For playback, connect the deck's pre amp output or line out jacks to the receiver's TAPE 1 IN jacks.

You can connect a second deck to the TAPE 2 IN/OUT jacks.
For playback only, you can connect a third (or fourth) deck to the TV/AUX or CD/AUX jacks (assuming you are not already using them).

ANTENNAS

Connect an external antenna to the FM ANTenna terminals — either 300 ohm screw terminals or 75 ohm F-type socket — as noted under Hints for Better Sound.
In metropolitan areas it may be sufficient to connect the convenient line cord FM antenna to the FM ANT 300Ω terminal. The built-in AM antenna needs no connection.

Auxiliary Audio

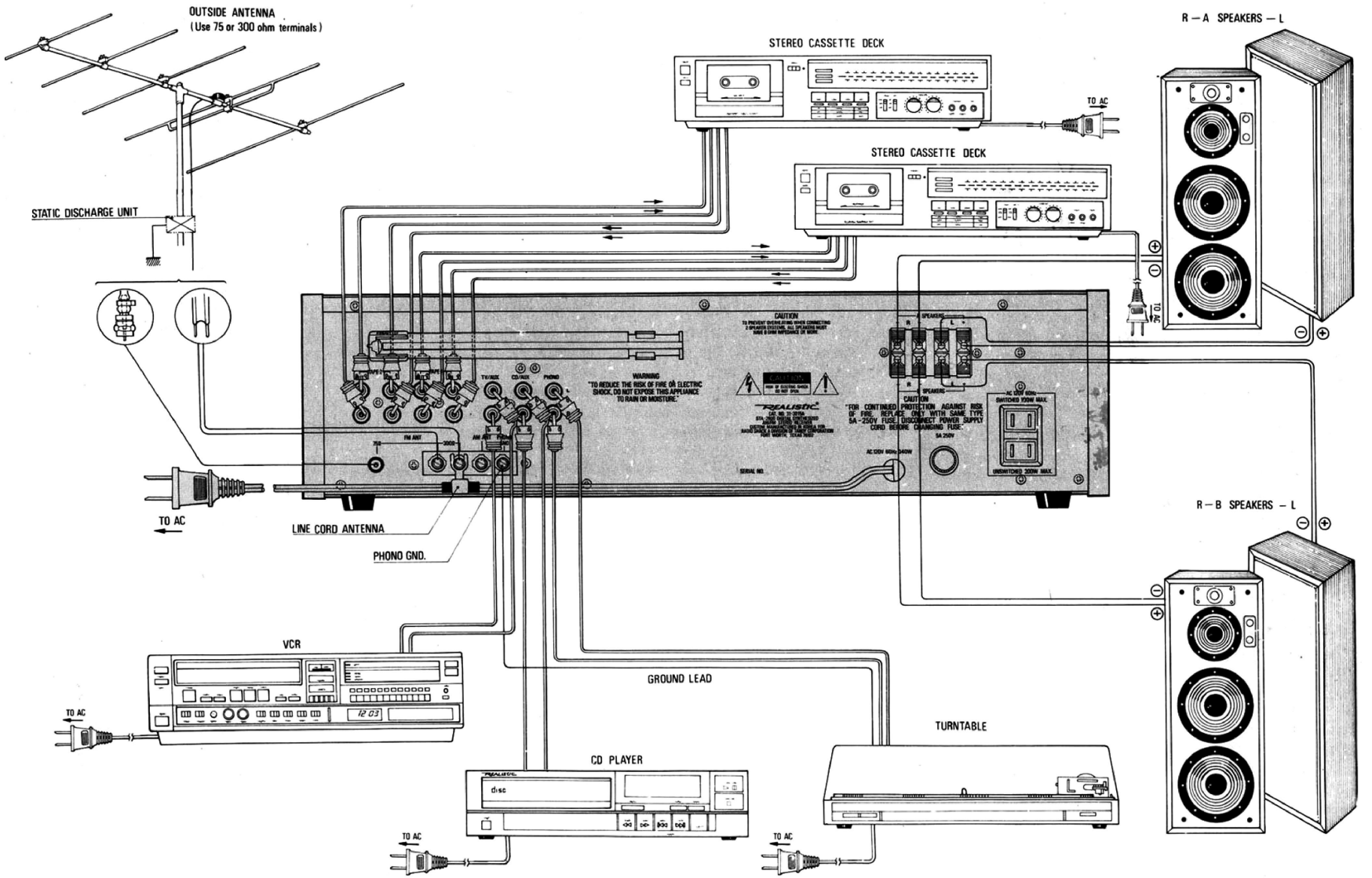
Plug the output from any high level source into the CD/AUX or TV/AUX jacks. These inputs are ideal for a second tuner, compact disc player, TV Audio, ceramic or crystal phono cartridges, a tape player, video equipment, etc.

Before plugging in the STA-2600

- Double check all connections — especially the Speaker connections — to be sure that they are all secure and that there are no shorts.
- Set the Volume control to minimum counter-clockwise position.
- All push buttons should be out.

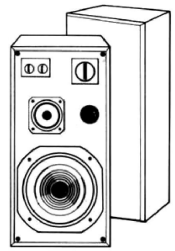
Now, connect the power cord to a source of AC power and you are ready for fantastic sound!

TYPICAL STA-2600 SYSTEM



CHOOSING THE REST OF YOUR SYSTEM

Speakers

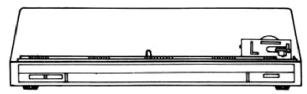


Good quality stereo sound depends on the speakers you choose for your system. With a high quality receiver like the **STA-2600**, you should carefully consider Radio Shack's Optimus and Mach two speakers. To be able to hear your new receiver's superior performance, we recommend one of the Optimus speakers as a minimum investment. Of course there is a wide variety of speakers intended primarily for remote use. Some are weather-proofed for outdoor installations and others offer the convenience of a built-in volume control. Naturally, if you plan to use your remote speakers for critical listening, you should consider using similar high quality speakers for both your main and remote installations.

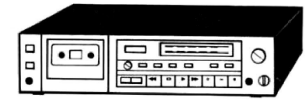
Your local Radio Shack has a wide selection of speakers that will perform exceptionally well with your **STA-2600**. Stop by and take a look and listen!

Turntable

For the best sound, your turntable should be equipped with a magnetic cartridge. A cartridge with an elliptical stylus follows the record groove more accurately, and so, produces better sound. Your Radio Shack store has a selection of turntables that come with factory-mounted bases and cartridges.



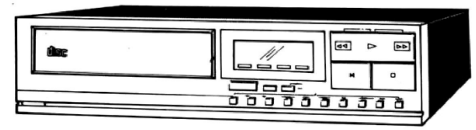
Tape Decks



Today's high performing cassette decks are equipped with special tape bias settings and noise reduction circuitry. Cassette decks have the added advantages of compactness and convenient pop-in loading. In addition, cassette tapes can be used in the car as well as at home.

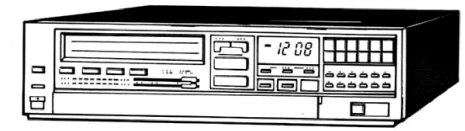
CD Players

CD (Compact Disc) players incorporate a laser beam that reads digital information laid beneath the disc's transparent surface and translates the information back into audio signal. Thus CD players are free from audible noise, distortion, "pops" or rumble. Their dynamic range is nearly as wide as that of a live performance. Visit your nearest Radio Shack store and listen to one of our CD players.



VCR

Usually the sound of a VCR is heard through the built-in amplifier and small speaker of the TV set. With your STA-2600, you can enjoy more rich and powerful sound than with your TV set.
Once it is hooked up as described in CONNECTIONS (on page 8), you will hear the playback sound from a hi-fidelity system that provides a quality of sound unobtainable from any ordinary TV.
Both Beta-HiFi stereo VCRs and stereo VHS VCRs are available at your Radio Shack store.



Headphones

Any system will benefit from a good pair of stereo headphones. They provide convenient private listening and many people find the heightened stereo effect exciting.
Your **STA-2600**'s front panel PHONES jack will accept any low impedance stereo headphones. When shopping for headphones, wear each pair long enough to be sure it will be comfortable before making your purchase.

Antennas

To obtain the superior performance your receiver's FM section is capable of producing, you should use an external/outside antenna. See Hints for Better Sound.

OPERATING THE STA-2600

Before Plugging the Unit in:

1) Double-check all connections.
2) Set VOLUME to "0".
3) All buttons should be out.

Plug the receiver's power cord into a wall outlet and press the appropriate SPEAKERS button to connect a pair of speakers.

Press POWER to turn the unit on.

Speakers/Headphones

Press the A or B (or both) SPEAKERS buttons. For private listening, release SPEAKERS by pressing again and plug a pair of low impedance headphones into the PHONES jack.

Inputs

Choose the input you want by pressing one of the input selector buttons.

AM/FM Reception

Press POWER on.
Press the AM or FM button. When POWER is first turned on, the frequency display will show the lowest frequency on the band.

In normal use, your STA-2600 will show the frequency of the last station you tuned to.

Normally you'll use FM MUTE when listening to FM. If you want to listen to weak or distant FM stations, press the FM MUTE button again to release it.

Automatic (Search) Tuning

Press the SEARCH button in and press the TUNING button either up (▶) or down (◀).
The receiver will tune automatically until a station is found.
If this station is not desired, press either (▶) or (◀) again to continue searching.

When the band-end is reached – either the high end or low end – the receiver automatically starts searching again at the opposite end.
The auto tuning will only stop at strong signals on AM and FM. If you want to tune in weaker stations, you will have to tune manually. Press the SEARCH button again to the out position for manual tuning. You'll also have to set the FM MUTE button out. You might find weaker FM stations noisy. To improve quality, press MPX Filter. If the station is still noisy, press the MONO button. This will improve fidelity, but the signal will no longer be stereo.

Manual Tuning

Set the SEARCH button to manual (out).
Press up (▶) or down (◀) to advance the frequency up (or down) to the next frequency assigned for the band. Press and hold the button to automatically step the frequency up (or down) rapidly.

When you are near the frequency of the station you desire, release the button and press it momentarily until you reach the desired station. Advance too far? No problem – just press the other end of the TUNING control momentarily to back up to the station you want.

If a band-end is reached during manual tuning, the tuner starts over at the opposite end.

Storing Frequencies

A total of 12 frequencies can be set in the STA-2600's memory (six for FM, six for AM).

1. Tune to an FM or an AM station as mentioned in Automatic Tuning or Manual Tuning.

2. Press the MEMORY button.
The MEMORY indicator will light.

3. While the MEMORY indicator is on, press one of the MEMORY TUNING buttons. This will store the station in the memory.

4. Repeat steps 2 and 3 until all the stations you want are set in the memory.

5. Select the other band (AM or FM) and repeat the above for six more frequencies.

Want to change the stations you've stored in memory?

Simply add new stations following steps 1-5 and the old ones are automatically erased.

Tuning to a Memory Station

To tune in a frequency programmed into memory, press the desired MEMORY button, 1 through 6.

If your Receiver is set to AM, you'll receive an AM frequency. If in the FM mode, you'll receive an FM frequency.

The memory contents will be kept as long as power is supplied to the Receiver. When the Receiver is unplugged, a built-in supercharge will keep the preset stations in memory for about one week.

Setting Controls

VOLUME

Adjust VOLUME for a pleasant listening level.

BALANCE

If necessary, adjust BALANCE for best separation and channel balance, or to compensate for slightly off-center listening positions.

Tone

The three separate tone knobs give you complete control over your system's sound. Each boosts its tone range when turned clockwise and de-emphasizes its range when turned counterclockwise. At the center position, they have no effect. Each of the tone controls adjusts both channels equally.

The BASS control varies the low frequencies while TREBLE controls the high frequencies. MIDRANGE (often called "presence") is not found on most receivers. It is most effective when you're listening to a record, tape or broadcast of a vocalist. Turning MIDRANGE clockwise emphasizes the vocalist; turning counterclockwise makes the singer sound like part of the ensemble.

SUB FILTER

Press SUB FILTER in to eliminate low frequency hum or turntable rumble. This filter is especially valuable when using our Minimus metal cabinet series or other small speakers. Press in to allow bass boosting/equalizing without increasing unwanted subsonic sounds. This helps eliminate subaudible forms of distortion. It also limits excessive power usage that causes undue speaker cone excursion.

LOUDNESS

When listening at low volumes, press the LOUDNESS button. This overcomes the ear's reduced sensitivity by boosting both bass and treble at low volume levels.

MONO

Pressing the MONO button defeats stereo operation. The resulting signal is a composite (left + right). Press MONO to the in position for monaural sources (old records, TV programming not in stereo, etc.). Press again to release it to the out position for stereo.

HIGH FILTER

Press the HIGH FILTER button to filter out hiss and scratches. For normal operation, leave the filter out.

Operation with the Connected Equipment

Turntable Operation

Press in the PHONO input selector button. Operate the turntable as outlined in the operation manual of your turntable. Adjust the controls on the STA-2600 for the most pleasant sound.

Auxiliary Unit Operation

Press in the appropriate input selector button, either CD/AUX or TV/AUX. Follow the operating instructions provided with your unit. Adjust the controls on the STA-2600 for the sound quality you desire.

Tape Deck Operation

Your STA-2600 has two sets of TAPE INput and TAPE OUTput jacks. The combination of these, and the jacks for other sources, make tape operation easy. You can switch between two decks on playback or record from any source being played through your Receiver, CD/AUX, TV/AUX, PHONO, AM, FM, without having to rearrange the connections on the rear panel every time you change a source.

Playback

Play a tape on your deck and press the desired TAPE MONITOR button, 1 or 2, depending on which TAPE IN you're going to use. Regardless of which selector button is pressed, you will hear the tape being played.

Note: If you have pressed either TAPE MONITOR button without a signal source connected to corresponding TAPE IN jack, the receiver's sound will cease. Pressing TAPE MONITOR interrupts the signal flow through the receiver and activates either TAPE IN for the input source.

Recording

Select PHONO, CD/AUX, TV/AUX, AM or FM, with the input selector buttons. You can record from either set, or both sets for dual recording, of tape jacks. Be sure the TAPE DUBBING buttons are out when recording.

Follow your tape deck's owner's manual carefully, for the proper use of its recording controls, and start recording.
Adjust VOLUME, BALANCE and tone controls for your listening pleasure. They will not affect the output to your deck.

Monitoring the Recording in Progress

When one of the TAPE MONITOR buttons is pressed, the source signal passes through the tape deck and to the receiver's TAPE IN jacks, 1 or 2, as selected by the TAPE MONITOR button.

If you have a three-head tape deck, you can press the appropriate TAPE MONITOR button to hear the recording immediately after it passes the recording head. You can monitor the actual quality of sound as it is being recorded on your tape.

With both TAPE DUBBING buttons out, both sets of jacks are operational for recording. The source signal you hear (from PHONO, CD/AUX, AM or FM) will be at both the TAPE 1 and TAPE 2 OUT jacks. Thus you can have two decks connected at the same time to record a single source on two tapes simultaneously. But you can monitor only one of the tapes being recorded. If you press both TAPE MONITOR buttons, you will hear TAPE 2 monitor sound.

Dubbing (Making a Duplicate Tape)

Using two recorders, connect the first, which for easy reference will be called "Tape Deck A," to the TAPE 1 IN and OUT jacks. Connect the second, "Tape Deck B," to the TAPE 2 IN and OUT jacks.

Put tape deck A into the play function. Press TAPE DUBBING 1 ▶ 2 to record onto tape deck B. Press TAPE MONITOR 1 to listen to deck A playback sound if desired. If tape deck B is a three-head machine, you can monitor its recording by pressing TAPE MONITOR 2.

You can also record onto tape deck A, when tape deck B is in the play mode. Just press TAPE DUBBING 2 ▶ 1 and put tape deck A into record mode. Then, to monitor the recording made on tape deck A (assuming A is a three-head machine), press TAPE MONITOR 1. Or if you want to listen to deck B playback, press TAPE MONITOR 2.

Listening to the Source

In either case, you may listen to another source, as selected by the input selector buttons, by leaving both TAPE MONITOR buttons out. When either of the TAPE DUBBING button is pressed, the tape in/out circuit becomes independent of the remaining circuitry so you can be free to listen to any other source you choose while you are doing a lot of dubbing.

Positioning Your Speakers

Where you put your speakers is a highly personal matter, depending largely on the arrangement of your listening room and the way you listen to music. The location of speakers makes a big difference in how your system will sound. So before settling on a final arrangement, try several alternatives.

Bass response is highly dependent on speaker location. For maximum bass, place the speakers in the corners of your room. Putting the speakers directly on the floor will make the bass even stronger. If the bass sounds boomy and exaggerated, move the speakers away from the corner slightly, pull them out from the wall a little or raise them 6 to 8 inches (15–20 cm) off the floor.

HINTS FOR BETTER SOUND

Stereo

Stereo speakers should be 6 to 8 feet (1.8 - 2.4 m) apart. Putting them too close together reduces the stereo effect, while placing them too far apart reduces bass response and creates a "hole in the middle." Also, most speakers have a tweeter dispersion angle of about 60°. Ideally, your listening position should be in the overlap, so you might want to angle the speakers slightly toward you for better stereo.

Antennas

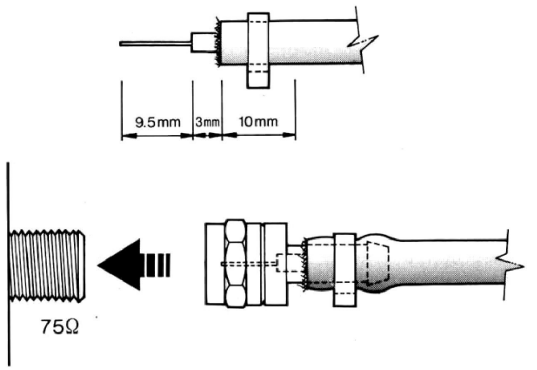
To realize the full potential of the FM and AM sections of your receiver, you should use an external antenna. We have provided screw terminals for connecting external/outside antennas for superior reception.

Your tuner comes with the convenient FM line cord antenna connected to one of the screws on the back. To use another antenna, loosen the screw and release the line cord antenna.

A set of VHF-TV rabbit ears or ones made specially for FM reception work well in suburban areas. Some deluxe models feature electronic "tuning" for better directionality. Connect such antennas to the 300Ω terminals.

An outside TV antenna will provide excellent FM reception. Use an inexpensive "splitter" and you can make connections for both TV and FM from the same antenna. See your Radio Shack store for a "splitter." Connect directly to the 300Ω terminals.

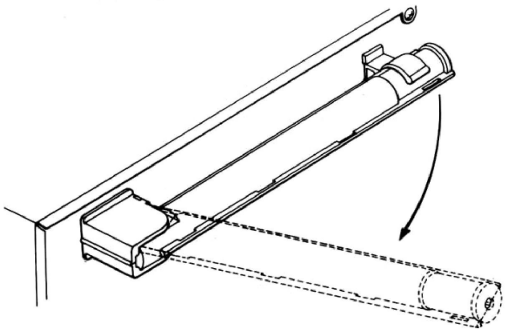
For the very best FM reception, use an outdoor antenna designed specifically for FM reception. Such an antenna can pick up stations up to 175 miles (280 km) away over flat terrain.



75-ohm coaxial lead-in

Many modern homes and apartments have built-in 75Ω TV/FM antenna systems and outlets. Most new color TV sets use 75Ω lead-in cable; thus many antennas are set up for 75Ω. In these cases, make FM antenna connections to the 75Ω socket.

The built-in loopstick antenna provides excellent AM reception. If you want even better AM reception, install an outdoor antenna [50 feet (16m) or more]. Mount the antenna high above ground, away from surrounding buildings and away from power lines. Connect a wire between the antenna and the AM antenna screw. Or use one of the AM/Short-wave Antenna kits available at your local Radio Shack store (Catalog Number 278-758).



Built-in AM Bar Antenna

Note: Move the built-in AM bar antenna around for best AM reception.

CARE AND MAINTENANCE

Your STA-2600 represents a fine example of electronic engineering and construction. As such it should be treated accordingly. We offer the following suggestions so you will enjoy this product for many years to come.

If at anytime you suspect that your unit is not performing as it should, stop by your local Radio Shack store. Our personnel are there to assist you and arrange for service, if needed.

Keep it dry. If water should get on it, wipe it off immediately. Water contains minerals that can corrode electronic circuits.

Do not store in hot areas. High temperatures can shorten the life of electronic devices and can even distort or melt certain plastics.

Do not drop your product. This will likely result in failure to operate. Circuit boards can crack and cases may not survive the impact. Handling your product roughly will shorten its useful life.

Do not use or store in areas of high levels of dirt or dust. The electronics may be contaminated. Any moving parts will wear prematurely.

Do not use harsh chemicals, cleaning solvents or strong detergents to keep your unit looking new. You need only wipe it with a dampened cloth from time to time.

Ventilation – can be important. We recommend that you do not place the STA-2600 on a surface that would block air circulation – air should circulate freely around the back, under and over the top of the case. Avoid placing the unit on a shag rug, etc. which would block air circulation.

Built-in Protection Circuits

Your receiver has built-in thermal overload protection. This means that it cannot become abnormally hot and damage some portion of the circuitry. If internal temperatures do rise abnormally, the receiver will automatically silence itself. If this happens, check to be sure you have not placed something over the ventilation holes – if you have, remove it.

In addition, the STA-2600 is protected against overdriving. So if you are using speakers with excessively low impedance, (such as two pairs of 4-ohm speakers), or if a short occurs across the speaker outputs, the amplifier's output stages will be silenced or cut off.

In any case, if the amplifier does turn itself off, turn POWER off and check ventilation. Then check to be sure your speakers are properly connected. Be sure you are not using a combination of 4-ohm speakers for both main and remote. If the protective circuit was triggered by temperature, it may take a few minutes for the circuitry to cool down and allow the unit to come back on. If the receiver does not come back on, you may have to wait a few more minutes for everything to cool adequately. No more than about 20 or 30 minutes should be required for this cool down cycle.

If You Have Problems

We hope you don't, but if you do, here are some suggestions:

1. Check all your cable connections. Make sure all the leads and plugs are secure at both ends.

2. Try a different AC outlet if you don't get any indication of power. And be sure you've got the line cord plugged in.

3. Try interchanging cables and connections on the rear panel. Some times this will give you a hint of where the problem lies, and it may solve the problem for you.

4. If the frequency display and POWER indicator light – but you have no sound – make sure you didn't leave the TAPE MONITOR button in.

If that is not the case – maybe the automatic overload protection circuit has activated. Turn POWER off and check your speaker connections.

A. Make sure there is no short across the speaker push terminals (stray strand of wire touching between terminals or the metal chassis).

B. If you are using more than one pair of speakers, they must be 8 or 16 ohm type. Two pair of 4 ohm speakers can overload the amplifier circuit and cause this circuit to activate.

C. Let the receiver cool down for a few minutes and then turn POWER back on.

In any case, if none of the above does the job and you still have a problem – help is as close as your local Radio Shack store. Bring your unit in and be ready to describe the symptoms – we'll get you back into good stereo sound ASAP!

SPECIFICATIONS

AMPLIFIER

Audio Output Power at no more than 0.05% Total Harmonic Distortion into 8 ohms, over the audio spectrum, 20 -20,000 Hz	**: 100 watts per channel (minimum RMS power, both channels driven)**
Frequency Response (1 watt, AUX In)	: 15 – 25,000 Hz ± 1 dB
IM Distortion (80 watts, 60/7,000 Hz)	: 0.01 %
Signal-to-Noise Ratio	: 84 dB (phono), 100 dB (AUX)
Input Sensitivity	: Phono: 2.5 mV CD/AUX, TV/AUX & Tape: 150 mV
Phono Equalization	: RIAA ± 2 dB
Tone Control Action	: Bass ±10 dB at 100 Hz Midrange ±6 dB at 1 kHz Treble ±10 dB at 10 kHz
Total Harmonic Distortion (80 watts)	: 20 Hz = 0.01 % 1 kHz = 0.01 % 20 kHz = 0.01 %
Loudness Compensation	: 10 kHz = +4 dB, 100 Hz = +6 dB

FM TUNER

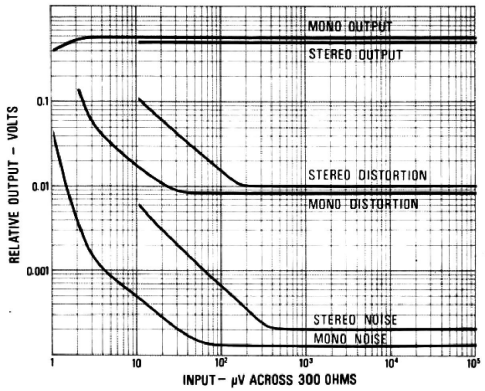
Sensitivity (S/N 30 dB)	: 1.7 μV, 1HF (9.8 dBf)
Limiting Sensitivity (-3 dB)	: 1.2 μV (6.8 dBf)
Signal-to-Noise Ratio	: 70 dB
Capture Ratio	: 1.5 dB
Total Harmonic Distortion (1 mV)	: Mono = 0.1%, Stereo = 0.2%
Image Rejection	: 70 dB
IF Rejection	: 85 dB
Selectivity	: 70 dB
Stereo Separation at 1,000 Hz	: 52 dB

AM TUNER

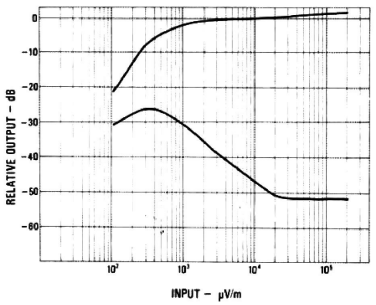
Sensitivity	: Radiated 350 μV/m (for 20 dB S+N/N) Terminal 25 μV (for 20 dB S+N/N)
Image Rejection	: 40 dB
IF Rejection	: 30 dB
AGC Figure-of-Merit	: 45 dB
Total Harmonic Distortion (10 mV/m)	: 0.8 %
Signal-to-Noise Ratio (10 mV/m)	: 45 dB
RF Interference Rejection	**: Rated Excellent**
POWER REQUIREMENTS	: 120VAC, 60 Hz, 340 watts max. (240VAC, 50 Hz, 340 watts max. available in UK/Australia only)

LABORATORY MEASUREMENTS (typical)

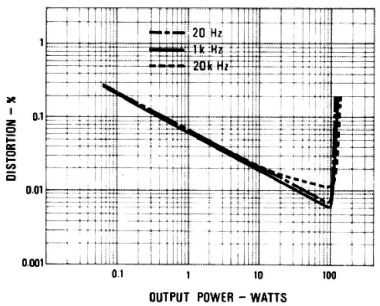
FM Quieting and Distortion



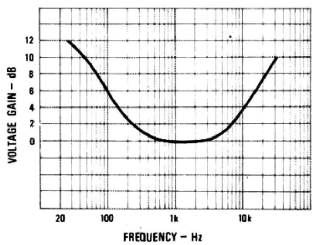
AM Quieting



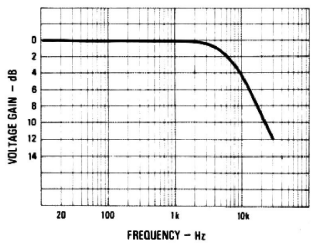
Distortion vs Power Output



Loudness Contour



High Filter Action



RADIO SHACK LIMITED WARRANTY

This product is warranted against defects for 2 years from date of purchase from Radio Shack company-owned stores and authorized Radio Shack franchisees and dealers. Within this period, we will repair it without charge for parts and labor. Simply **bring your Radio Shack sales slip** as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage.

EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

We Service What We Sell

RADIO SHACK
A Division of Tandy Corporation
Fort Worth, Texas 76102

Printed in Korea
481–191 A

IMPORTANT SAFEGUARDS

1. Read Instructions — All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions — The safety and operating instructions should be retained for future reference.

3. Heed Warnings — All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions — All operating and use instructions should be followed.

5. Water and Moisture — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

6. Carts and Stands — The appliance should be used only with a cart or stand that is recommended by the manufacturer.

7. Wall or Ceiling Mounting — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

8. Ventilation — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9. Heat — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

10. Power Sources — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

11. Grounding or Polarization – This appliance is equipped with a polarized plug and must be used with a polarized receptical. The polarization or grounding of plug should not be defeated. If type of receptical being used is not polarized an electrician should be contacted.

12. Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. Cleaning — The appliance should be cleaned only as recommended by the manufacturer.

14. Power Lines — An outdoor antenna should be located away from power lines.

15. Outdoor Antenna Grounding — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No.70–1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

16. Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

17. Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

18. Damage Requiring Service — The appliance should be serviced by qualified service personnel when:

    A. The power-supply cord or the plug has been damaged; or

    B. Objects have fallen, or liquid has been spilled into the appliance; or

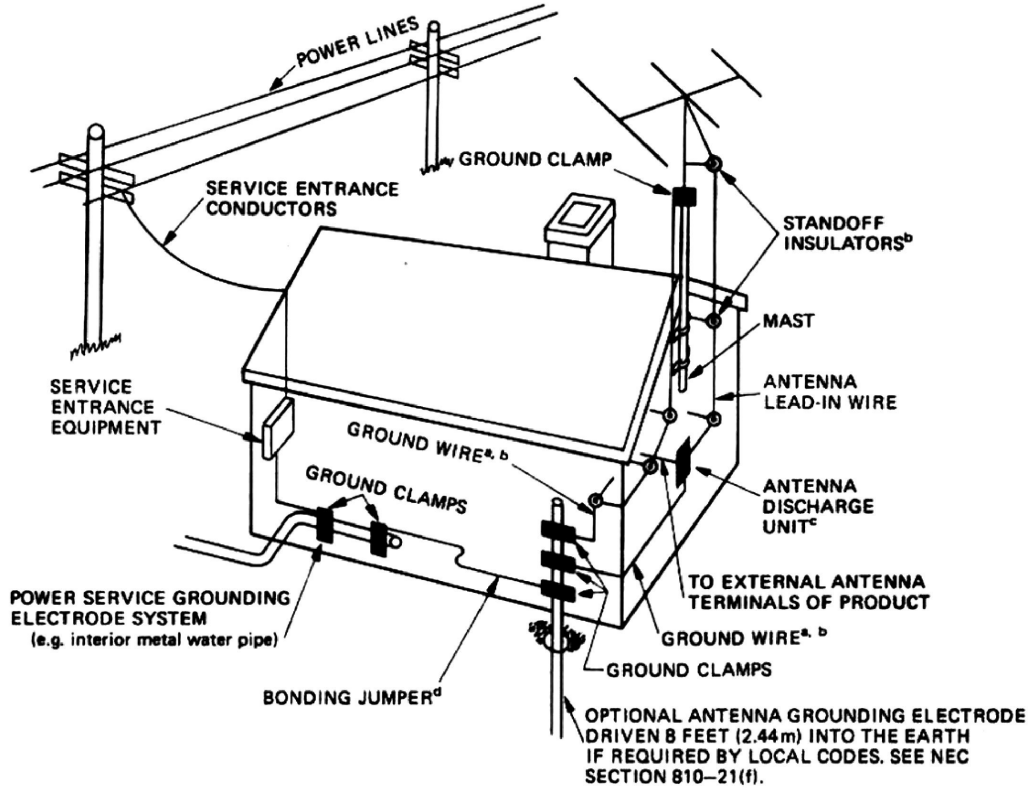
    C. The appliance has been exposed to rain; or

    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or

    E. The appliance has been dropped, or the enclosure damaged.

19. Servicing — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FIGURE 1
EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 – "RADIO AND TELEVISION EQUIPMENT"


POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
STANDOFF INSULATORS[b]
MAST
ANTENNA LEAD-IN WIRE
SERVICE ENTRANCE EQUIPMENT
GROUND WIRE[a, b]
GROUND CLAMPS
ANTENNA DISCHARGE UNIT[c]
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
GROUND WIRE[a, b]
GROUND CLAMPS
BONDING JUMPER[d]
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44m) INTO THE EARTH IF REQUIRED BY LOCAL CODES. SEE NEC SECTION 810–21(f).

[a] Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copper-clad steel or bronze wire, or larger, as a ground wire.

[b] Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

[c] Mount antenna discharge unit as close as possible to where lead-in enters house.

[d] Use jumper wire not smaller than No. 6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j).